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Lane

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(54) **TRACK QUALITY INDICATOR WITH HYSTERESIS**

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(58) Field of Search **367/118, 124, 367/131, 907; 342/90, 62; 702/150, 151**

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(57) **ABSTRACT**

The apparatus and method of the present invention utilize hysteresis to provide accurate and stable track quality indicator (TQI) data. In accordance with the present invention, each TQI state has two corresponding thresholds. Specifically, each TQI state has an initial threshold that must be surpassed by an initial or first summed log likelihood ratio (SLLR₀) before a change in current TQI state is made to a higher TQI state, and a lower threshold below which a second SLLR₁ must decrease in order to effect a change in current TQI state to a lower TQI state. Thus, SLLR₀ is used to determine if the tracker quality indicates a low SNR track, an uncertain track or a lost track, and SLLR₁ is used to determine if the tracker quality indicates a strong track. In accordance with the present invention, the values of SLLR₀ and SLLR₁ and the absolute value of the smoothed tracker residual are used to generate a current TQI value.

8 Claims, 4 Drawing Sheets

